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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/822,628   | 04/12/2004  | Gerhard Spitz        | LBP-PT038           | 3298             |
| 3624   | 7590        | 05/08/2006           | EXAMINER            |                  |
| VOLPE AND KOENIG, P.C.<br>UNITED PLAZA, SUITE 1600<br>30 SOUTH 17TH STREET<br>PHILADELPHIA, PA 19103 |             |                      | BEVERIDGE, RACHEL E |                  |
|  |             |                      | ART UNIT            | PAPER NUMBER     |
|  |             |                      | 1725                |                  |

DATE MAILED: 05/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/822,628

Applicant(s)

SPITZ, GERHARD

Examiner

Rachel E. Beveridge

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.138(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12 April 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 11-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Election/Restrictions***

Applicant's election with traverse of Group I, claims 1-10 in the reply filed on April 7, 2006 is acknowledged. The traversal is on the ground(s) that "no serious burden exists in examining all of the claims in the application" (pages 8-9). This is not found persuasive because Group I (claims 1-10) and Group II (claims 11-20) require searches in two different U.S. classifications.

The requirement is still deemed proper and is therefore made FINAL.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe et al. (US 4,603,806) in view of Ruple (US 5,720,195).

Watanabe discloses a method of manufacturing metal pipe with longitudinally differentiated wall thickness by bending and welding with high dimensional accuracy (Watanabe et al., col. 1, lines 45-52). Watanabe also discloses roll bending the sheet metal to form tubes as shown in figure 14 (col. 6, lines 43-47). Watanabe's figure 10 shows a pair of presses (22) (which can also be forming rolls or other appropriate tools (col. 5, lines 54-59)) perpendicular to the plane of the weld axis at the centerline (20, 21)

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe et al. (US 4,603,806) in view of Ruple (US 5,720,195).

With respect to claim 1, Watanabe discloses a method of manufacturing metal pipe with longitudinally differentiated wall thickness by bending and welding with high dimensional accuracy (Watanabe et al., col. 1, lines 45-52). Watanabe also discloses roll bending the sheet metal to form tubes as shown in figure 14 (col. 6, lines 43-47). Regarding claims 2 and 3, Watanabe's figure 10 shows a pair of presses (22) (which can also be forming rolls or other appropriate tools (col. 5, lines 54-59)) perpendicular to the plane of the weld axis at the centerline (20, 21) between the edges of the sheet metal strip (2,3). With regard to claim 4, figures 6,9, and 10 of Watanabe show sections of a metal strip (2,3) with different thicknesses where the center of each section on each longitudinal edge of the strip are aligned before welding. Further regarding claim 1, Ruple discloses a process for producing seam-welded tubes via a series of forming rolls that progressively deform into a tube with an open longitudinally extending seam (Ruple, col. 1, lines 12-17). Ruple discloses that the specific contour of the forming rolls is a function of the width and thickness of the strip being formed and

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the size of the tube being formed (col. 2, lines 28-33). Ruple's field of invention is a mill for the manufacture of continuous seam-welded tubes or pipes of particular sizes and shapes (col. 1, lines 5-11). Ruple also discloses the longitudinal edges of the tube are urged together during welding (col. 1, lines 18-20). With respect to claim 5, Ruple discloses adjacent roll stands including at least a pair of cooperating forming tools of different contour than rolls (16, 18), thus effecting the gradual deformation of the flat metal strip into a tube (col. 2, lines 25-28). Also, Ruple discloses the specific contour of the forming rolls are a function of the width and thickness of the strip being formed, the metal alloy of the strip, and the size of the tube being formed (col. 2, lines 28-33). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the tube manufacturing method of Watanabe to include the sizing and welding processes of Ruple in order to reduce the amount of time spent welding tubes of varying thickness (Ruple, col. 2, lines 54-65).

Claims 6-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe et al. (US 4,603,806) and Ruple (US 5,720,195) as applied to claim 5 above, and further in view of Foster (US 4,047,411).

With respect to claims 6 and 8, Ruple discloses reciprocal vertical movement achieved by a lead screw and drive mechanism that is simultaneously driven by a motor coupled to the interconnected drive shaft (Ruple, col. 3, lines 24-27). However, Watanabe and Ruple lack disclosure of a sensor for continuous measurement and control of the distance between forming rolls. Foster discloses a hydraulic actuator that controls the position of the upper

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forming roll (Foster, col. 2, lines 59-61). Regarding claim 7, the examiner interpreted the claim to read, "tool is pre-tensioned or set pneumatically or hydraulically." Foster discloses a position sensor that continuously sense the position of the upper roll and controls a feedback signal that is used to control a hydraulic actuator that controls the position of the upper roll (col. 2, lines 54-61). With respect to claims 9 and 10, Foster discloses stored information on the rate of part movement is used to control the rate between the positions of the feedback and command signals so that the desired contour or radii changes occur at the correct position of the tube being formed (col. 3, lines 25-32). Foster also teaches the automatic, numerical control of the upper roll's position (col. 3, lines 53-58). Therefore, It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combined invention of Watanabe and Ruple and include the automatic and continuous sensor, and control of the forming roll position of Foster in order to avoid manual control and enhance the overall productivity of the welded tubes of varying thickness (Foster, col. 3, lines 57-58).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rachel E. Beveridge whose telephone number is (571) 272-5169. The examiner can normally be reached on Monday through Friday, 9 am to 6 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on (571) 272-1292. The fax

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phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

REB

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## DETAILED ACTION

### *Election/Restrictions*

Restriction to one of the following inventions is required under 35 U.S.C.

121:

- I. Claims 1-10, drawn to a method for producing a closed metal profile or metal tube, classified in class 228, subclass 173.6.
- II. Claims 11-20, drawn to a roll-forming system, classified in class 29, subclass various.

The inventions are distinct, each from the other because of the following reasons:

Inventions Group I and Group II are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case the roll-forming system can be used to produce a corrugated structure that is not closed.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

During a telephone conversation with Dimitri Dovas on October 14, 2005 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-10. Affirmation of this election must be made by applicant in replying to this Office action. Claims 11-20 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.



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between the edges of the sheet metal strip (2,3). Figures 6,9, and 10 of Watanabe show sections of a metal strip (2,3) with different thicknesses where the center of each section on each longitudinal edge of the strip are aligned before welding. However, Watanabe lacks disclosure of sizing rollers for continuously forming the tube. Ruple discloses a process for producing seam-welded tubes via a series of forming rolls that progressively deform into a tube with an open longitudinally extending seam (Ruple, col. 1, lines 12-17). Ruple discloses that the specific contour of the forming rolls is a function of the width and thickness of the strip being formed and the size of the tube being formed (col. 2, lines 28-33). Ruple's field of invention is a mill for the manufacture of continuous seam-welded tubes or pipes of particular sizes and shapes (col. 1, lines 5-11). Ruple also discloses the longitudinal edges of the tube are urged together during welding (col. 1, lines 18-20). Ruple discloses adjacent roll stands including at least a pair of cooperating forming tools of different contour than rolls (16, 18), thus effecting the gradual deformation of the flat metal strip into a tube (col. 2, lines 25-28). Also, Ruple discloses the specific contour of the forming rolls are a function of the width and thickness of the strip being formed, the metal alloy of the strip, and the size of the tube being formed (col. 2, lines 28-33). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the tube manufacturing method of Watanabe to include the sizing and welding processes of Ruple in order to reduce the amount of time spent welding tubes of varying thickness (Ruple, col. 2, lines 54-65).

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Claims 6-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe et al. (US 4,603,806) and Ruple (US 5,720,195) as applied to claim 5 above, and further in view of Foster (US 4,047,411).

Ruple discloses reciprocal vertical movement achieved by a lead screw and drive mechanism that is simultaneously driven by a motor coupled to the interconnected drive shaft (Ruple, col. 3, lines 24-27). However, Watanabe and Ruple lack disclosure of a sensor for continuous measurement and control of the distance between forming rolls. Foster discloses a hydraulic actuator that controls the position of the upper forming roll (Foster, col. 2, lines 59-61). The examiner interpreted claim 7 to read, "tool is pre-tensioned or set pneumatically or hydraulically." Foster discloses a position sensor that continuously sense the position of the upper roll and controls a feedback signal that is used to control a hydraulic actuator that controls the position of the upper roll (col. 2, lines 54-61). Foster discloses stored information on the rate of part movement is used to control the rate between the positions of the feedback and command signals so that the desired contour or radii changes occur at the correct position of the tube being formed (col. 3, lines 25-32). Foster also teaches the automatic, numerical control of the upper roll's position (col. 3, lines 53-58). Therefore, It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combined invention of Watanabe and Ruple and include the automatic and continuous sensor and control of the forming roll position of Foster in order to avoid manual control and enhance the overall productivity of the welded tubes of varying thickness (Foster, col. 3, lines 57-58).

***Response to Arguments***

Applicant's arguments filed April 7, 2006 have been fully considered but they are not persuasive.

Applicant argues that Watanabe does not teach the claim limitation of shaping the sheet metal strip, with a strip thickness that varies along a length thereof into a profile or tube by roll-forming (page 10). The examiner disagrees and points the applicant to Watanabe's figure 4, of which is a perspective view of an example of a roll cluster of a roll bender used for the bending operation (col. 2, lines 50-51).

Applicant argues that Watanabe does not teach sizing the profile or tube in at least one sizing roller pair to predetermined outer dimensions (page 10). Although, the examiner agrees that Watanabe does not specifically disclose a "sizing roller pair," the examiner reminds the applicant that the rejection of claims 1-5 was made in view of Ruple, of which discloses the claimed limitation.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., Watanabe does not allow for a continuous process (page 10)) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Furthermore, the examiner notes that the applicant has admitted, "Ruple teaches a roll forming machine for the continuous production of tubes" (page 10). The rejection of claims 1-5 was made in view of Ruple.

In response to applicant's argument that there is no suggestion to combine the references (page 11), the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the tube manufacturing method of Watanabe to include the sizing and welding processes of Ruple in order to reduce the amount of time spent welding tubes of varying thickness (Ruple, col. 2, lines 54-65).

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning (page 11), it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Applicant also argues that the combination still fails to show the method of the claimed invention since neither teach sizing rollers to size the tube to a predetermined out dimension (page 11). The examiner disagrees and points the applicant to Ruples

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disclosure of adjacent roll stands including at least a pair of cooperating forming tools of different contour than rolls (16, 18), thus effecting the gradual deformation of the flat metal strip into a tube (col. 2, lines 25-28). Also, Ruple discloses the specific contour of the forming rolls are a function of the width and thickness of the strip being formed, the metal alloy of the strip, and the size of the tube being formed (col. 2, lines 28-33).

Applicant argues that claims 6-10 are believed to be allowable for all reasons previously argued with respect to claim 1. The examiner disagrees for the same reasons as applied for claim 1 above.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

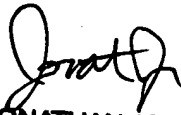
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reb

  
JONATHAN JOHNSON  
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